



## BROADCAST SEEDING A PRAIRIE PLANTING

The prairie enthusiast who seeds a parcel of land to prairie is making an investment in the future. Time and patience are required to be successful. You will likely see more weeds than prairie plants in the first 2 years. Do not give up hope. With a little care and maintenance during this critical time, your prairie plot should begin blooming in the third year. As your prairie becomes established, it will require very little maintenance. You will be able to enjoy its dynamic beauty for years to come.

Due to the wide range of conditions encountered when seeding a prairie planting, it is impossible to write a "recipe." What follows are guidelines that are based on our experience. PLEASE READ CAREFULLY. If you have any questions, write or call us. We will do what we can to ensure the success of your prairie planting.

### Soil Preparation

Proper soil preparation is critical to the success of any prairie planting. Remove existing vegetation by herbiciding, cultivating, or a combination of the two.

#### *Lawns*

- A) Herbiciding: Use a non-persistent herbicide with glyphosate. Follow manufacturer's instructions.
  - Apply once in previous fall, or in mid-spring, for spring plantings.
  - Apply once in early fall for fall planting,
  - Till soil and plant. Remove dead sod to create smooth seedbed.
- B) Cultivation. Cultivate 2-3 times to kill grass and to work up soil. Remove dead sod to create smooth seedbed.
- C) Sod Removal: Use a sod-cutter to remove the sod, and then till the exposed soil to prepare the seedbed.

#### *Old Fields*

- A) Herbiciding: Mow in early spring, then spray 3 times, once in mid to late spring, once in mid summer, & once in early fall). Till soil after final spraying and plant, or use no-till seeder and plant directly into dead sod.
- B) Cultivation: Cultivate 4-6 inches deep all season long, every two weeks to kill rhizomatous perennial weeds. After the final cultivation late in the year, a dormant fall seeding can occur. If further weed control is desired, the planting can be done in the following spring, allowing for light surface cultivation to kill weeds prior to spring planting.

#### *Existing Agricultural Fields*

Do NOT plant fields treated with Atrazine within the last 2 years.

- A) Herbiciding: Spray once in mid-spring for spring planting; or once in early fall after removal of crop for fall planting. Till soil and plant, or use no-till seeder and plant directly into soil with no soil tillage.

- B) Cultivation: Work up seed bed as for any other crop. If rhizomatous perennials are present, work up soil all year, same as old field. After the existing vegetation is removed, the seed bed should be prepared by filling or disking, and then dragging or raking smooth.

Properly prepared seed beds will be smooth and free of large clumps. If working on heavy clay soils low in organic matter, the addition of 2-3 inches of clean top soil greatly improves the seed bed. Germination and seedling survival will be enhanced.

## Planting!

### *Fall Planting - Plant from late September to freeze-up*

- Advantages - 1) Seed over winters as it would in nature and comes up in spring on its own schedule, when conditions are right.  
2) In general, forb seed has greater germination.  
3) Recommended for planting on sandy soils because seed germinates when soil moisture levels are optimal.

- Disadvantages - 1) Grass seed often has poorer germination  
2) There is limited opportunity for early season weed control by cultivation or herbiciding.  
3) NOT recommended for heavy soils, due to difficulty in preparing proper seed bed.

### *Early Spring Planting - Plant from March to April*

- Advantages - 1) Forbs will germinate better than if planted in late spring.  
2) If using wet stratified seed (see Prairie Seed Propagation), water is not critical.  
3) Grass seed will germinate better than if planted in fall.  
4) Sandy soils should be planted as soon as possible in spring, if it is not possible to plant in fall.

- Disadvantages-1) Limited opportunity for early season weed control.  
2) It is NOT recommended to plant heavy soils in early spring, as it is difficult to work these soils when wet.

### *Late Spring Planting - Plant from May to June*

- Advantages - 1) More time for soil preparation. This is important for planting on heavy soils.  
2) Longer time for weed control.  
3) Best time to plant warm season grasses.

- Disadvantages -1) Increased chance of drought conditions.  
2) Do not use wet stratified seed unless area can be watered regularly.  
3) Overall, poorer forb germination, except for warm season species. Many species will not germinate until fall or the next spring. This allows the weeds a one-year head start.

## Planting Methods

- 1) Mix seed with a much larger volume of slightly moist sawdust, vermiculite, perlite, peat moss, or sand. Diluting the seed assures good seed distribution.
- 2) Prepare soil for planting by tilling, raking, or by dragging with a drag or a section of chain-link fence. This will loosen the soil to allow incorporation of the seed into the surface soil.
- 3) Inoculate legume seeds prior to planting. Moisten seed with water until just damp. Add inoculum and mix thoroughly. The inoculum is a beneficial bacterium that works with the plant roots to extract nitrogen from the air.
- 4) Mix inoculated legume seeds with wildflower seeds. These can be mixed together with the prairie grass seed to form a uniform mix, or can be planted in drifts within the grasses. Grass seed should be planted across the entire area. The grasses help squeeze out weeds, while the flowers alone usually cannot.
- 5) Sow seed using one-half of the seed mix material to cover the entire area. Then sow the other half by walking perpendicular to the first line of travel. This ensures good coverage across the entire area.
- 6) Rake seed in, or drag lightly.
- 7) Firm with a roller or culti-packer, or drive across seeded area with tractor tires or vehicle tires. NEVER firm soil when wet.
- 8) Cover with mulch or plant a nurse crop. On steep slopes, it is often beneficial to plant a nurse crop and mulch the planting.

***mulch*** - A clean straw mulch helps to hold moisture in the soil, reduce soil temperatures, and prevent erosion.

Use weed-free mulch, such as mash hay, or clean winter wheat straw. Oat -straw is OK, but higher in weeds.

Soil surface should be covered with netting, staking it down on slopes or on windy sites.

***Nurse Crops*** - Nurse crops are annuals or short-lived perennials that provide rapid soil stabilization, and help keep weeds down without competing with the prairie seedlings. Nurse crops can be planted at the same time as the prairie seed. They can be mixed with the prairie seed and hand-broadcasted together, or on large plantings, oats can be drilled in prior to or after the prairie seeding.

### ***Selected Nurse Crops***

**-Oats:** Apply at a rate of 50 pounds/acre (2 oz/100 sq ft) in spring plantings. Use 100 pounds per acre (4 oz/100 sq. ft) in mid-autumn plantings, as it will winter-kill and heavier seeding rates assure better soil holding ability.

**-Annual Rye** Plant at a rate of 5 pounds/acre.

**-Canada Wild Rye.** A short-lived perennial prairie grass that grows rapidly. Apply at a rate of 3-4 pounds/acre.

## **Planting in Problem Areas**

### *Sandy soils*

These soils have little moisture-holding capacity. It is strongly recommended that mulch or a nurse crop be used to conserve moisture, unless the area is to be watered regularly.

### *Clay soils*

Mulch is critical to seedling survival.

- 1) Prevents soil from drying and cracking that damages tender seedling roots.
- 2) Mulch is better than a cover crop. It is difficult for roots to penetrate the hard soil.

Do NOT plant on raw clay soils that are low in organic matter, unless they are mulched or regular watering is to be provided. Young seedling roots cannot penetrate hard dry soil, and mortality is typically very high.

## *Year One*

### *Watering*

Regular watering in the first two months of a spring or summer planting is the single most important factor in success. Water only during the morning, never at night, as this encourages fungal diseases that can kill young seedlings.

### *Weed Control*

If mulch is used, control annual weeds by mowing to 4-6 inches in the first year. Weeds can out-compete the prairie seedlings, by depriving them of water, light, and space. Do NOT let weeds get higher than 12 to 14 inches before mowing. Cutting down weeds can smother the seedlings below.

If a nurse crop is used, do not mow in the first year, unless weeds become a serious problem. If weeds are dense and begin to grow up to 16 inches, cut them down along with the nurse crop to prevent shading out of prairie seedlings.

## *Year Two*

Mow to 12 to 18 inches in early summer if weeds are a problem. Mowing lower could harm your plants.

## *Year Three and Beyond*

Mow and rake, or burn, every other year. Plantings can be divided into two portions, and burned in alternating years. Burn, or mow and rake in mid-spring when lawns have greened up and begun active growth. This helps to control undesirable cool season grasses and removes excess plant litter, encouraging soil warming and earlier plant growth.